



1/105

SEQUENCE LISTING

<110> Reddy, Ramachandra  
Gill, Parkash

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 Val Thr Phe Pro Gln Val Asp Gly Gln Trp Glu Glu Leu Ser Gly Leu  
 35 40 45



Asp	Glu	Glu	Gln	His	Ser	Val	Arg	Thr	Tyr	Glu	Val	Cys	Glu	Val	Gln
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Arg	Ala	Pro	Gly	Gln	Ala	His	Trp	Leu	Arg	Thr	Gly	Trp	Val	Pro	Arg
65					70					75					80
Arg	Gly	Ala	Val	His	Val	Tyr	Ala	Thr	Leu	Arg	Phe	Thr	Met	Leu	Glu
				85					90					95	
Cys	Leu	Ser	Leu	Pro	Arg	Ala	Gly	Arg	Ser	Cys	Lys	Glu	Thr	Phe	Thr
			100					105					110		
Val	Phe	Tyr	Tyr	Glu	Ser	Asp	Ala	Asp	Thr	Ala	Thr	Ala	Leu	Thr	Pro
		115						120				125			
Ala	Trp	Met	Glu	Asn	Pro	Tyr	Ile	Lys	Val	Asp	Thr	Val	Ala	Ala	Glu
	130					135					140				
His	Leu	Thr	Arg	Lys	Arg	Pro	Gly	Ala	Glu	Ala	Thr	Gly	Lys	Val	Asn
145					150					155					160
Val	Lys	Thr	Leu	Arg	Leu	Gly	Pro	Leu	Ser	Lys	Ala	Gly	Phe	Tyr	Leu
				165					170					175	
Ala	Phe	Gln	Asp	Gln	Gly	Ala	Cys	Met	Ala	Leu	Leu	Ser	Leu	His	Leu
			180					185					190		
Phe	Tyr	Lys	Lys	Cys	Ala	Gln	Leu	Thr	Val	Asn	Leu	Thr	Arg	Phe	Pro
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Val	Asp	Ala	Val	Pro	Ala	Pro	Gly	Pro	Ser	Pro	Ser	Leu	Tyr	Cys	Arg
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Glu	Asp	Gly	Gln	Trp	Ala	Glu	Gln	Pro	Val	Thr	Gly	Cys	Ser	Cys	Ala
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Pro	Gly	Phe	Glu	Ala	Ala	Glu	Gly	Asn	Thr	Lys	Cys	Arg	Ala	Cys	Ala
			260					265					270		
Gln	Gly	Thr	Phe	Lys	Pro	Leu	Ser	Gly	Glu	Gly	Ser	Cys	Gln	Pro	Cys
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Pro	Ala	Asn	Ser	His	Ser	Asn	Thr	Ile	Gly	Ser	Ala	Val	Cys	Gln	Cys
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Arg	Val	Gly	Tyr	Phe	Arg	Ala	Arg	Thr	Asp	Pro	Arg	Gly	Ala	Pro	Cys
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Thr	Thr	Pro	Pro	Ser	Ala	Pro	Arg	Ser	Val	Val	Ser	Arg	Leu	Asn	Gly
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Ser	Ser	Leu	His	Leu	Glu	Trp	Ser	Ala	Pro	Leu	Glu	Ser	Gly	Gly	Arg
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Glu	Asp	Leu	Thr	Tyr	Ala	Leu	Arg	Cys	Arg	Glu	Cys	Arg	Pro	Gly	Gly
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Ser	Cys	Ala	Pro	Cys	Gly	Gly	Asp	Leu	Thr	Phe	Asp	Pro	Gly	Pro	Arg
	370					375					380				
Asp	Leu	Val	Glu	Pro	Trp	Val	Val	Val	Arg	Gly	Leu	Arg	Pro	Asp	Phe
385					390					395					400
Thr	Tyr	Thr	Phe	Glu	Val	Thr	Ala	Leu	Asn	Gly	Val	Ser	Ser	Leu	Ala
				405					410					415	
Thr	Gly	Pro	Val	Pro	Phe	Glu	Pro	Val	Asn	Val	Thr	Thr	Asp	Arg	Glu
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Val	Pro	Pro	Ala	Val	Ser	Asp	Ile	Arg	Val	Thr	Arg	Ser	Ser	Pro	Ser
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Ser	Leu	Ser	Leu	Ala	Trp	Ala	Val	Pro	Arg	Ala	Pro	Ser	Gly	Ala	Trp
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Leu	Asp	Tyr	Glu	Val	Lys	Tyr	His	Glu	Lys	Gly	Ala	Glu	Gly	Pro	Ser
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Ser	Val	Arg	Phe	Leu	Lys	Thr	Ser	Glu	Asn	Arg	Ala	Glu	Leu	Arg	Gly
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Leu	Lys	Arg	Gly	Ala	Ser	Tyr	Leu	Val	Gln	Val	Arg	Ala	Arg	Ser	Glu
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Ala	Gly	Tyr	Gly	Pro	Phe	Gly	Gln	Glu	His	His	Ser	Gln	Thr	Gln	Leu
	515					520					525				
Asp	Glu	Ser	Glu	Gly	Trp	Arg	Glu	Gln	Gly	Ser	Lys	Arg	Ala	Ile	Leu
	530				535					540					
Gln	Ile	Glu	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser
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			20					25					30		
Val	Thr	Phe	Pro	Gln	Val	Asp	Gly	Gln	Trp	Glu	Glu	Leu	Ser	Gly	Leu
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Asp	Glu	Glu	Gln	His	Ser	Val	Arg	Thr	Tyr	Glu	Val	Cys	Glu	Val	Gln
	50				55					60					
Arg	Ala	Pro	Gly	Gln	Ala	His	Trp	Leu	Arg	Thr	Gly	Trp	Val	Pro	Arg
65				70					75					80	
Arg	Gly	Ala	Val	His	Val	Tyr	Ala	Thr	Leu	Arg	Phe	Thr	Met	Leu	Glu
			85					90						95	
Cys	Leu	Ser	Leu	Pro	Arg	Ala	Gly	Arg	Ser	Cys	Lys	Glu	Thr	Phe	Thr
			100				105						110		
Val	Phe	Tyr	Tyr	Glu	Ser	Asp	Ala	Asp	Thr	Ala	Thr	Ala	Leu	Thr	Pro
		115				120						125			
Ala	Trp	Met	Glu	Asn	Pro	Tyr	Ile	Lys	Val	Asp	Thr	Val	Ala	Ala	Glu
	130				135					140					
His	Leu	Thr	Arg	Lys	Arg	Pro	Gly	Ala	Glu	Ala	Thr	Gly	Lys	Val	Asn
145				150					155					160	
Val	Lys	Thr	Leu	Arg	Leu	Gly	Pro	Leu	Ser	Lys	Ala	Gly	Phe	Tyr	Leu
			165					170						175	
Ala	Phe	Gln	Asp	Gln	Gly	Ala	Cys	Met	Ala	Leu	Leu	Ser	Leu	His	Leu
		180				185						190			
Phe	Tyr	Lys	Lys	Cys	Ala	Gln	Leu	Thr	Val	Asn	Leu	Thr	Arg	Phe	Pro
		195				200						205			
Glu	Thr	Val	Pro	Arg	Glu	Leu	Val	Val	Pro	Val	Ala	Gly	Ser	Cys	Val
	210				215						220				
Val	Asp	Ala	Val	Pro	Ala	Pro	Gly	Pro	Ser	Pro	Ser	Leu	Tyr	Cys	Arg
225				230					235					240	
Glu	Asp	Gly	Gln	Trp	Ala	Glu	Gln	Pro	Val	Thr	Gly	Cys	Ser	Cys	Ala
			245					250						255	
Pro	Gly	Phe	Glu	Ala	Ala	Glu	Gly	Asn	Thr	Lys	Cys	Arg	Ala	Cys	Ala
		260					265						270		
Gln	Gly	Thr	Phe	Lys	Pro	Leu	Ser	Gly	Glu	Gly	Ser	Cys	Gln	Pro	Cys
	275					280					285				
Pro	Ala	Asn	Ser	His	Ser	Asn	Thr	Ile	Gly	Ser	Ala	Val	Cys	Gln	Cys
	290				295					300					
Arg	Val	Gly	Tyr	Phe	Arg	Ala	Arg	Thr	Asp	Pro	Arg	Gly	Ala	Pro	Cys
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Ser Ser Leu His Leu Glu Trp Ser Ala Pro Leu Glu Ser Gly Gly Arg
      340      345      350
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      355      360      365
Ser Cys Ala Pro Cys Gly Gly Asp Leu Thr Phe Asp Pro Gly Pro Arg
      370      375      380
Asp Leu Val Glu Pro Trp Val Val Val Arg Gly Leu Arg Pro Asp Phe
385      390      395      400
Thr Tyr Thr Phe Glu Val Thr Ala Leu Asn Gly Val Ser Ser Leu Ala
      405      410      415
Thr Gly Pro Val Pro Phe Glu Pro Val Asn Val Thr Thr Asp Arg Glu
      420      425      430
Val Pro Pro Ala Val Ser Asp Ile Arg Val Thr Arg Ser Ser Pro Ser
      435      440      445
Ser Leu Ser Leu Ala Trp Ala Val Pro Arg Ala Pro Ser Gly Ala Trp
      450      455      460
Leu Asp Tyr Glu Val Lys Tyr His Glu Lys Gly Ala Glu Gly Pro Ser
465      470      475      480
Ser Val Arg Phe Leu Lys Thr Ser Glu Asn Arg Ala Glu Leu Arg Gly
      485      490      495
Leu Lys Arg Gly Ala Ser Tyr Leu Val Gln Val Arg Ala Arg Ser Glu
      500      505      510
Ala Gly Tyr Gly Pro Phe Gly Gln Glu His His Ser Gln Thr Gln Leu
      515      520      525
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Ile Tyr Trp Asn Ser Ser Asn Ser Lys Phe Leu Pro Gly Gln Gly Leu
      35      40      45
Val Leu Tyr Pro Gln Ile Gly Asp Lys Leu Asp Ile Ile Cys Pro Lys
50      55      60
Val Asp Ser Lys Thr Val Gly Gln Tyr Glu Tyr Tyr Lys Val Tyr Met
65      70      75      80
Val Asp Lys Asp Gln Ala Asp Arg Cys Thr Ile Lys Lys Glu Asn Thr
      85      90      95
Pro Leu Leu Asn Cys Ala Lys Pro Asp Gln Asp Ile Lys Phe Thr Ile
      100      105      110
Lys Phe Gln Glu Phe Ser Pro Asn Leu Trp Gly Leu Glu Phe Gln Lys
      115      120      125
Asn Lys Asp Tyr Tyr Ile Ile Ser Thr Ser Asn Gly Ser Leu Glu Gly
130      135      140

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Leu Asp Asn Gln Glu Gly Gly Val Cys Gln Thr Arg Ala Met Lys Ile
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Leu Met Lys Val Gly Gln Asp Ala Ser Ser Ala Gly Ser Thr Arg Asn
          165          170          175
Lys Asp Pro Thr Arg Arg Pro Glu Leu Glu Ala Gly Thr Asn Gly Arg
          180          185          190
Ser Ser Thr Thr Ser Pro Phe Val Lys Pro Asn Pro Gly Ser Ser Thr
          195          200          205
Asp Gly Asn Ser Ala Gly His Ser Gly Asn Asn Ile Leu Gly Ser Glu
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Val Gly Ser His His His His His His
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&lt;211&gt; 771

&lt;212&gt; PRT

&lt;213&gt; Unknown

&lt;220&gt;

&lt;223&gt; Recombinant B4ECv3-FC protein

&lt;400&gt; 389

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Val Thr Phe Pro Gln Val Asp Gly Gln Trp Glu Glu Leu Ser Gly Leu
          35      40      45
Asp Glu Glu Gln His Ser Val Arg Thr Tyr Glu Val Cys Glu Val Gln
          50      55      60
Arg Ala Pro Gly Gln Ala His Trp Leu Arg Thr Gly Trp Val Pro Arg
          65      70      75      80
Arg Gly Ala Val His Val Tyr Ala Thr Leu Arg Phe Thr Met Leu Glu
          85      90      95
Cys Leu Ser Leu Pro Arg Ala Gly Arg Ser Cys Lys Glu Thr Phe Thr
          100     105     110
Val Phe Tyr Tyr Glu Ser Asp Ala Asp Thr Ala Thr Ala Leu Thr Pro
          115     120     125
Ala Trp Met Glu Asn Pro Tyr Ile Lys Val Asp Thr Val Ala Ala Glu
          130     135     140
His Leu Thr Arg Lys Arg Pro Gly Ala Glu Ala Thr Gly Lys Val Asn
          145     150     155     160
Val Lys Thr Leu Arg Leu Gly Pro Leu Ser Lys Ala Gly Phe Tyr Leu
          165     170     175
Ala Phe Gln Asp Gln Gly Ala Cys Met Ala Leu Leu Ser Leu His Leu
          180     185     190
Phe Tyr Lys Lys Cys Ala Gln Leu Thr Val Asn Leu Thr Arg Phe Pro
          195     200     205
Glu Thr Val Pro Arg Glu Leu Val Val Pro Val Ala Gly Ser Cys Val
          210     215     220
Val Asp Ala Val Pro Ala Pro Gly Pro Ser Pro Ser Leu Tyr Cys Arg
          225     230     235     240
Glu Asp Gly Gln Trp Ala Glu Gln Pro Val Thr Gly Cys Ser Cys Ala
          245     250     255
Pro Gly Phe Glu Ala Ala Glu Gly Asn Thr Lys Cys Arg Ala Cys Ala
          260     265     270
Gln Gly Thr Phe Lys Pro Leu Ser Gly Glu Gly Ser Cys Gln Pro Cys
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Arg	Val	Gly	Tyr	Phe	Arg	Ala	Arg	Thr	Asp	Pro	Arg	Gly	Ala	Pro	Cys
305					310					315					320
Thr	Thr	Pro	Pro	Ser	Ala	Pro	Arg	Ser	Val	Val	Ser	Arg	Leu	Asn	Gly
				325					330					335	
Ser	Ser	Leu	His	Leu	Glu	Trp	Ser	Ala	Pro	Leu	Glu	Ser	Gly	Gly	Arg
			340					345					350		
Glu	Asp	Leu	Thr	Tyr	Ala	Leu	Arg	Cys	Arg	Glu	Cys	Arg	Pro	Gly	Gly
		355					360					365			
Ser	Cys	Ala	Pro	Cys	Gly	Gly	Asp	Leu	Thr	Phe	Asp	Pro	Gly	Pro	Arg
	370					375					380				
Asp	Leu	Val	Glu	Pro	Trp	Val	Val	Val	Arg	Gly	Leu	Arg	Pro	Asp	Phe
385					390					395					400
Thr	Tyr	Thr	Phe	Glu	Val	Thr	Ala	Leu	Asn	Gly	Val	Ser	Ser	Leu	Ala
				405					410					415	
Thr	Gly	Pro	Val	Pro	Phe	Glu	Pro	Val	Asn	Val	Thr	Thr	Asp	Arg	Glu
			420					425					430		
Val	Pro	Pro	Ala	Val	Ser	Asp	Ile	Arg	Val	Thr	Arg	Ser	Ser	Pro	Ser
		435					440					445			
Ser	Leu	Ser	Leu	Ala	Trp	Ala	Val	Pro	Arg	Ala	Pro	Ser	Gly	Ala	Trp
	450					455					460				
Leu	Asp	Tyr	Glu	Val	Lys	Tyr	His	Glu	Lys	Gly	Ala	Glu	Gly	Pro	Ser
465					470					475					480
Ser	Val	Arg	Phe	Leu	Lys	Thr	Ser	Glu	Asn	Arg	Ala	Glu	Leu	Arg	Gly
				485					490					495	
Leu	Lys	Arg	Gly	Ala	Ser	Tyr	Leu	Val	Gln	Val	Arg	Ala	Arg	Ser	Glu
			500					505					510		
Ala	Gly	Tyr	Gly	Pro	Phe	Gly	Gln	Glu	His	His	Ser	Gln	Thr	Gln	Leu
		515					520					525			
Asp	Glu	Ser	Glu	Gly	Trp	Arg	Glu	Gln	Asp	Pro	Glu	Pro	Lys	Ser	Cys
	530					535					540				
Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly
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Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met
				565					570					575	
Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His
			580					585					590		
Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val
		595					600					605			
His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr
	610					615					620				
Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly
625					630					635					640
Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile
				645					650					655	
Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val
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Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser
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Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu
	690					695					700				
Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro
705					710					715					720
Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val
				725					730					735	
Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met
			740					745					750		

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 Ile Tyr Trp Asn Ser Ser Asn Ser Lys Phe Leu Pro Gly Gln Gly Leu  
       35                  40                  45  
 Val Leu Tyr Pro Gln Ile Gly Asp Lys Leu Asp Ile Ile Cys Pro Lys  
       50                  55                  60  
 Val Asp Ser Lys Thr Val Gly Gln Tyr Glu Tyr Tyr Lys Val Tyr Met  
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 Val Asp Lys Asp Gln Ala Asp Arg Cys Thr Ile Lys Lys Glu Asn Thr  
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 Pro Leu Leu Asn Cys Ala Lys Pro Asp Gln Asp Ile Lys Phe Thr Ile  
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 Lys Phe Gln Glu Phe Ser Pro Asn Leu Trp Gly Leu Glu Phe Gln Lys  
       115                  120                  125  
 Asn Lys Asp Tyr Tyr Ile Ile Ser Thr Ser Asn Gly Ser Leu Glu Gly  
       130                  135                  140  
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 Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr  
           260                  265                  270  
 Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn  
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 Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg  
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 Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val  
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 Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser  
           325                  330                  335  
 Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys  
           340                  345                  350

Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp  
           355                                  360                                  365  
 Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe  
       370                                  375                                  380  
 Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu  
 385                                  390                                  395                                  400  
 Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe  
                                   405                                  410                                  415  
 Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly  
                                   420                                  425                                  430  
 Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr  
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 tttctttacc gttgtttcct cgatttttct ctactcccta gcgcagctta gtgcgcgcct 180  
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 cccctgggc ggccgtcaat tctccaaagc ttctactccc ttttccttcc ttttcccca 360  
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 tctccctccc tcccgtcccg tccccgtctg ggctcccacc atccccgccc gcgaggagag 960  
 cactcggccc ggcggcgcga gcagagccac tccaggagg gggggagacc gcgagcggcc 1020  
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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 392

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&lt;213&gt; Homo sapiens

&lt;400&gt; 393

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4335

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Gln	Arg	Arg	Glu	Phe	Leu	Ser	Glu	Ala	Ser	Ile	Met	Gly	Gln	Phe	Glu
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Gly Glu Trp Leu Arg Ala Ile Lys Met Gly Arg Tyr Glu Glu Ser Phe
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Glu Asp Leu Leu Arg Ile Gly Val Thr Leu Ala Gly His Gln Lys Lys
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Arg Lys His Ser Pro Gln His Thr Thr Thr Leu Ser Leu Ser Thr Leu
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105/105

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Met	Pro	Pro	Gln	Ser	Pro	Ala	Asn	Ile	Tyr	Tyr	Lys	Val			
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